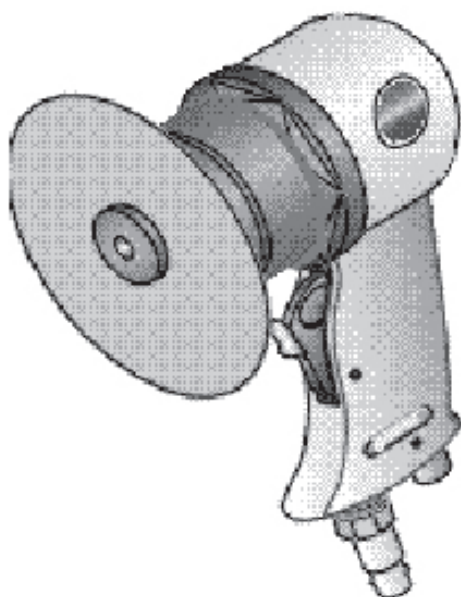


CENTRAL PNEUMATIC®

5" AIR SANDER/DRILL

Model 97187

ASSEMBLY AND OPERATING INSTRUCTIONS



3491 Mission Oaks Blvd., Camarillo, CA 93011
Visit our Web site at <http://www.harborfreight.com>

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For technical questions or replacement parts, please call 1-800-444-3353.

SPECIFICATIONS

Free Speed	18,000 RPM
Recommended Air Pressure	90 PSI
Air Consumption	4 CFM
Weight	2 lbs.
Air Inlet Size	$\frac{1}{4}$ " NPT
Chuck Type	$\frac{3}{8}$ " Keyless Chuck

SAVE THIS MANUAL

You will need the manual for the safety warnings and cautions, assembly instructions, operating procedures, maintenance procedures, trouble shooting, parts list, and diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep both this manual and your invoice in a safe, dry place for future reference.

Safety Warnings and Precautions

WARNING: When using tool, basic safety precautions should always be followed to reduce the risk of personal injury and damage to equipment.

Read all instructions before using this tool!

1. **Keep work area clean.** Cluttered areas invite injuries.
2. **Observe work area conditions.** Do not use machines or power tools in damp or wet locations. Don't expose to rain. Keep work area well lighted. Do not use electrically powered tools in the presence of flammable gases or liquids.
3. **Keep children away.** Children must never be allowed in the work area. Do not let them handle machines, tools, or extension cords.
4. **Store idle equipment.** When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep out of reach of children.
5. **Use the right tool for the job.** Do not attempt to force a small tool or attachment to do the work of a larger industrial tool. There are certain applications for which this tool was designed. It will do the job better and more safely at the rate for which it was intended. Do not modify this tool and do not use this tool for a purpose for which it was not intended.
6. **Dress properly.** Do not wear loose clothing or jewelry as they can be caught in moving parts. Protective, electrically non-conductive clothes and non-skid footwear are recommended when working. Wear restrictive hair covering to contain long hair.
7. **Use eye protection.** Always wear ANSI approved impact safety goggles. Wear a full face shield if you are producing metal filings or wood chips. Wear an ANSI approved dust mask or respirator when working around metal, wood, and chemical dusts and mists.
8. **Do not overreach.** Keep proper footing and balance at all times. Do not reach over or across running machines.
9. **Maintain tools with care.** Keep tools clean for better and safer performance. Follow instructions for changing accessories. Inspect tool periodically and if any part appears broken or damaged, have it repaired by an authorized technician. The handles must be kept clean, dry, and free from oil and grease at all times.
10. **Disconnect power.** Disconnect tool from air compressor when not in use and before changing accessories, maintaining, repairing, or cleaning.
11. **Remove adjusting keys and wrenches.** Check that adjusting wrenches are removed from the tool or machine work surface before connecting it to its power source.
12. **Avoid unintentional starting.** Be sure the air compressor switch is in the Off position when

not in use and before connecting to this tool. Do not carry any tool with your finger on the trigger, whether it is connected or not.

13. **Stay alert.** Watch what you are doing, use common sense. Do not operate any tool when you are tired.
14. **Take caution as some woods contain preservatives such as copper chromium arsenate (CCA) which can be toxic.** When cutting these materials extra care should be taken to avoid inhalation and minimize skin contact.
15. **Check for damaged parts.** Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician. Do not use the tool if the trigger does not operate properly.
16. **Guard against electric shock.** Prevent body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerator enclosures.
17. **Replacement parts and accessories.** When servicing, use only identical replacement parts. Use of any other parts will void the warranty. Only use accessories intended for use with this tool. All accessories used must be rated 18,000 RPM or greater. Before each use, inspect the accessory for damage or excess wear. Never use a damaged or worn out accessory.
18. **Do not operate tool if under the influence of alcohol or drugs.** Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.
19. **Use proper size and type extension cord.** If an extension cord is required for the compressor, it must be of the proper size and type to supply the correct current to the tool without heating up. Otherwise, the extension cord could melt and catch fire, or cause electrical damage to the tool.
20. **Maintenance.** For your safety, service and maintenance should be performed regularly by a qualified technician.
21. **Use clean, dry, regulated, compressed air at 90 PSI.** Do not exceed the recommended 90 PSI. Never use oxygen, carbon dioxide, combustible gases, or any other bottled gas as a power source for this tool.
22. This tool has no safety shield. **DO NOT USE GRINDING DISCS, GRINDING WHEELS OR CUT-OFF WHEELS WITH THIS TOOL.**

Note: Performance of the compressor powering this tool (if powered by line voltage) may vary depending on variations in local line voltage. Extension cord usage may also affect compressor performance.

WARNING: Some dust created by power sanding, sawing, grinding, drilling, and other construction activities, contain chemicals known [to the State of California] to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- *Lead from lead-based paints
- *Crystalline silica from bricks and cement or other masonry products
- *Arsenic and chromium from chemically treated lumber

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles. (California Health & Safety Code 25249.5, et seq.)

Warning: The warnings, cautions, and instructions discussed in this instruction manual

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cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

UNPACKING

When unpacking your 5" Sander/Drill, check the items against the list below. If any parts are missing or broken, please call Harbor Freight Tools at the number on the cover of this manual.

Item#	Description	Qty
N/A	Drill Assembly	1
26	Holding Tool	1
30	5-1/2" Backing Plate	1
29	4-1/2" Backing Plate	1
28	3" Backing Plate	1
27	Adapter Lock Down	1

ASSEMBLY

Your Sander/Drill comes assembled and ready for use as a Drill. To convert your Sander/Drill for use as a Sander, follow the Steps below.

Sander Assembly

Disconnect the Sander/Drill from the Air Supply prior to cleaning, maintaining, or making any adjustments to the tool.

Step 1: Place the HOLDING TOOL (26) into one of two holes in the SANDING ADAPTER (25) as shown in Figure 1.

Step 2: Open up the jaws of CHUCK (31) wide enough, insert screwdriver into chuck center and loose off CHUCK CENTER SCREW (32).

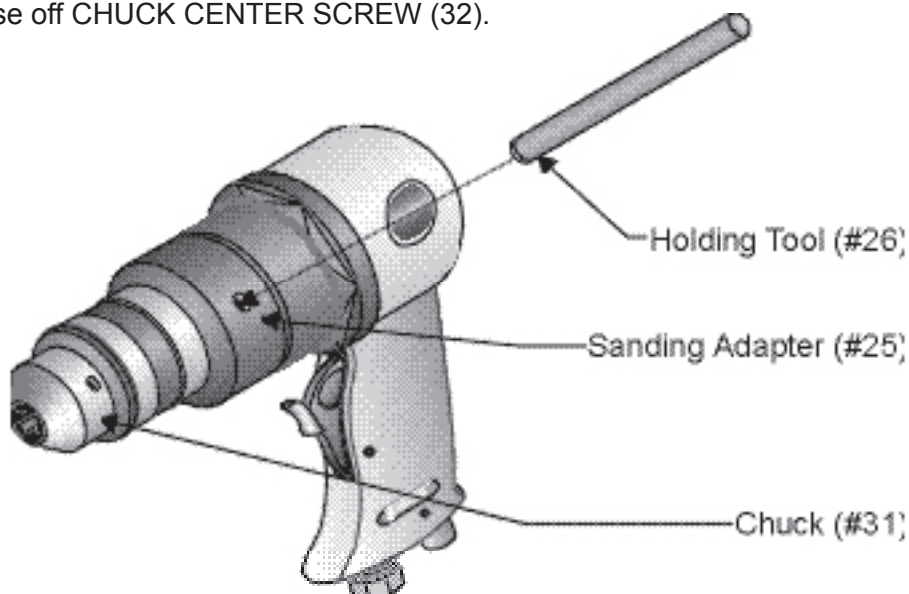


Figure 1 — Installing the Holding Tool

Step 3: Turn the CHUCK counterclockwise until remove the CHUCK.

Step 4: You will need sandpaper discs the appropriate size for the Backing Plate you will be using. These can be purchased from Harbor Freight Tools.

Step 5: Place the desired BACKING PLATE (28, 29 or 30) over the threads of the ROTOR (19). Place the sandpaper disc over the BACKING PLATE.

Step 6: Thread the ADAPTER LOCK DOWN (27) onto the ROTOR as shown in Figure 2. Tighten.

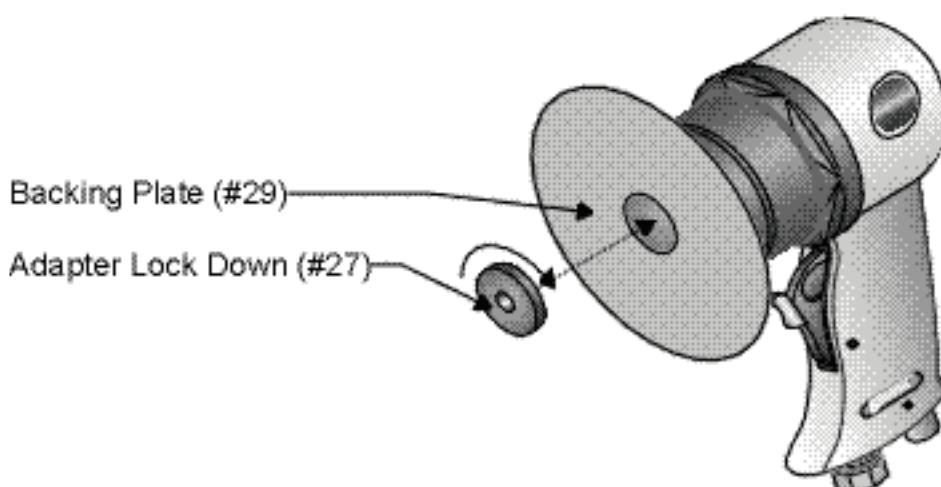


Figure 2 — Installing the Backing Plate

Drill Bit Installation

Disconnect the Sander/Drill from the Air Supply prior to cleaning, maintaining, or making any adjustments to the tool.

Step 1: Select the drill bit needed for the drilling you wish to perform.

Step 2: Open up the Jaws of the Drill by turning the CHUCK (31) as shown in Figure 3.

Step 3: When the Jaws are open wide enough to insert the drill bit, slide the bit into the CHUCK as far as possible.

Step 4: By hand, turn the CHUCK to tighten the Jaws and make sure the jaws hold the drill bit well.

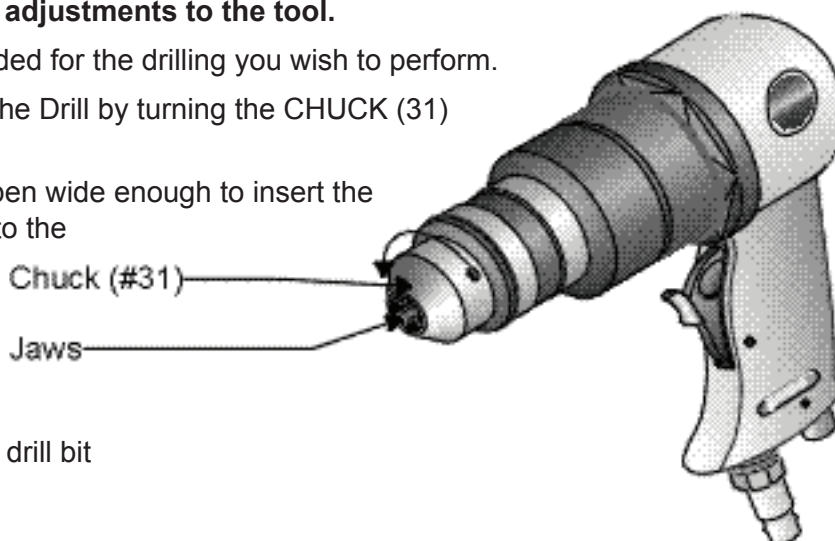


Figure 3 — Opening the Drill Chuck

OPERATION

For best service, you should incorporate an oiler, regulator, and inline filter, as shown in the diagram below. Hoses, couplers, oilers, regulators, and filters are all available at Harbor Freight Tools.

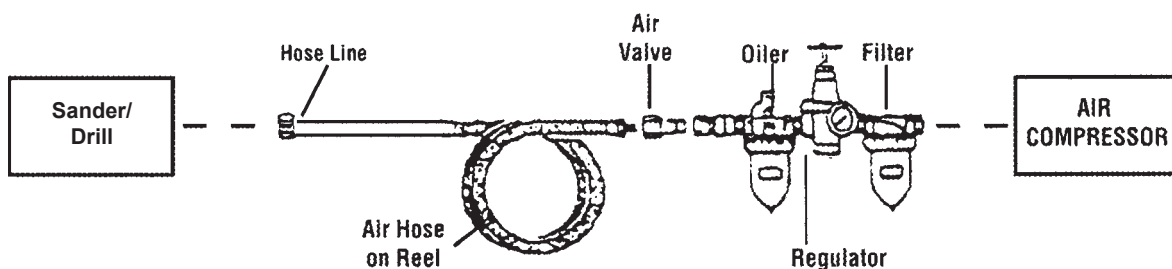


Figure 4 — Airline Oiler Assembly

Note: To connect this tool, we recommend a quick coupler/adaptor (not included). Coupler/adaptors are available at Harbor Freight Tools. For smoother operation, put 3-5 drops of pneumatic tool oil in the Hose Joint (6) before each use.

Setup

- Step 1: Set the compressor's pressure regulator to 90 PSI. Do not set the compressor's outlet regulator over 90 PSI.
- Step 2: Connect the Sander/Drill to the air compressor's hose. If leaking is detected, disconnect the air hose and repair before use.

Drilling

Note: This tool has no safety shield. **DO NOT USE GRINDING DISCS, GRINDING WHEELS OR CUT-OFF WHEELS WITH THIS TOOL.**

Note: All accessories used must be rated 18,000 RPM or greater.

- Step 1: Mark the material you wish to drill at the spot for the hole. Make sure your drill bit is the correct size for the hole you need to make.
- Step 2: If possible, clamp the material in a vise to make sure the material does not move or begin to spin while drilling.

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- Step 3: Wear eye protection to guard against flying wood or metal.
- Step 4: Set the compressor's pressure regulator to 90 PSI. Do not set the compressor's outlet regulator over 90 PSI.
- Step 5: Connect the Sander/Drill to the air compressor's hose. If leaking is detected, disconnect the air hose and repair before use.
- Step 6: Grip the Sander/Drill firmly. Place the drill bit on the spot marked in Step 1.
- Step 7: To begin drilling, press the TRIGGER (10) as shown in Figure 5.

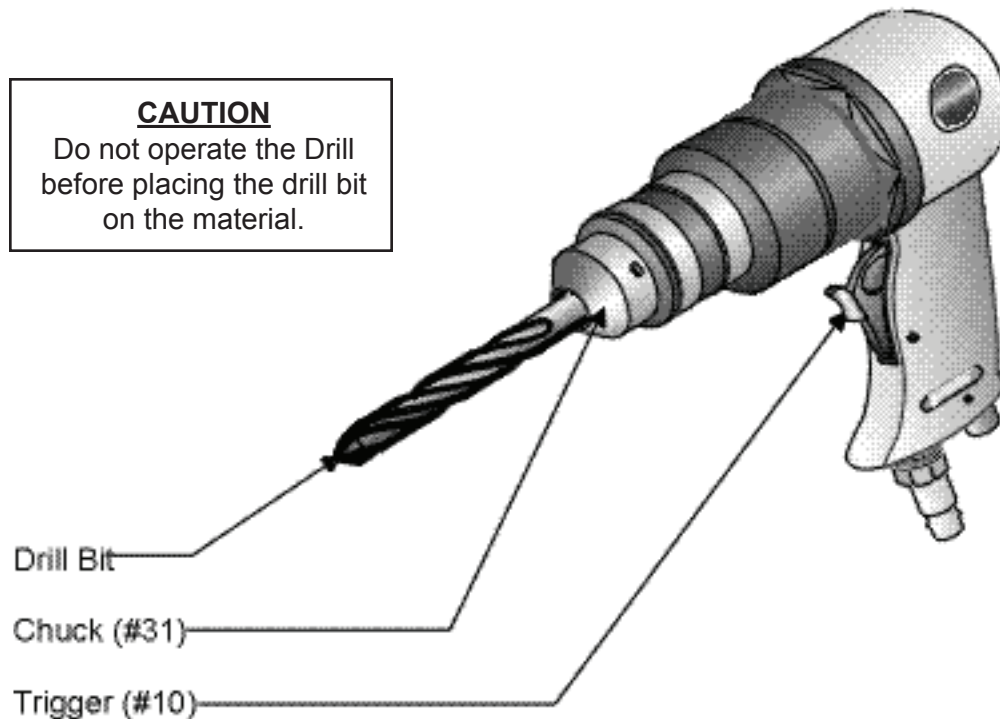


Figure 5 — Drilling Operations

- Step 8: Your Sander/Drill has a variable speed for drilling. To vary the speed of the drilling action, vary the pressure on the TRIGGER.
- Step 9: Drill only as deep as necessary. Do not drill into walls or other areas where you cannot identify any possible hazards behind the drilling surface.
- Step 10: When you have drilled the hole, remove the drill bit from the hole while the Sander/Drill is still spinning. This is to prevent the drill getting caught in the hole and causing damage.

Sanding

- Step 1: Identify the area you will be sanding. Make sure you are using the appropriate grit sandpaper for the material you will be working with.
- Step 2: It is recommended that you start the Sander/Drill before placing the sandpaper disc onto the work surface. This will reduce deep scratching in the surface.
- Step 3: To operate the Sander/Drill, grip the BODY (1) with your palm and place pressure on the TRIGGER (10) to begin sanding.
- Step 4: You can vary the speed of the Sander/Drill to suit different sanding applications by varying the pressure placed on the TRIGGER.
- Step 5: It is recommended that you sand in a random pattern to avoid sanding a side to side into your work surface. Do not sand any one area too heavily, or for more than a few seconds at a time.
- Step 6: Every few minutes during continuous sanding, check the condition and wear of the sandpaper. If necessary, peel and replace the sandpaper. Do not use torn or severely worn sandpaper, you may damage your work surface or suffer physical injury.
- Step 7: When you are done sanding, remove the Sander/Drill from the work surface and release pressure on the TRIGGER to stop the Sander/Drill.

MAINTENANCE

Your Sander/Drill is best operated with an Airline Oiler. If you are using the Sander/Drill without an Airline Oiler, follow the steps below for maintenance.

Step 1: Disconnect the Sander/Drill from the air hose.

Step 2: Apply a few drops of **PNEUMATIC TOOL OIL** through the air line before each use, or every hour if used continuously.

Step 3: Apply a few drops of oil to the TRIGGER (10) as shown in Figure 6. Work the TRIGGER a few times to lubricate.

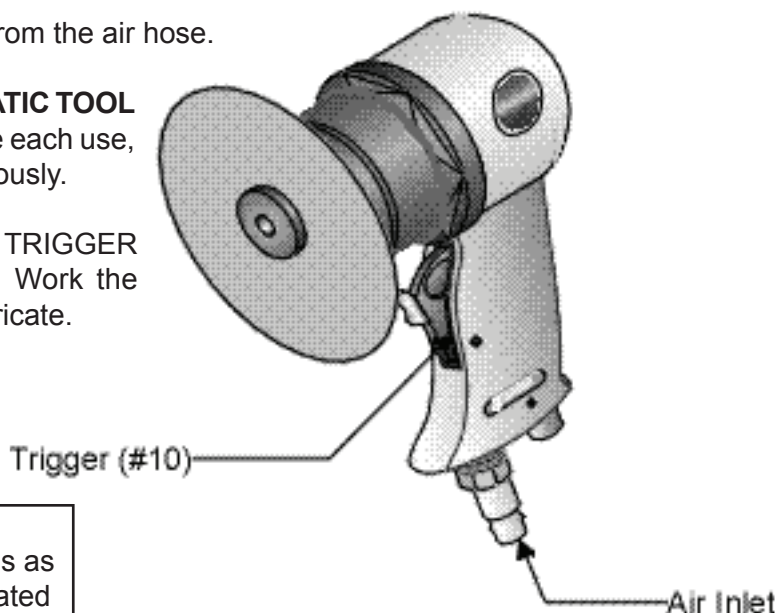


Figure 6 — Lubrication Points

CAUTION

Do not use detergent oil or additives as these lubricants will cause accelerated wear to the seals in the tool.

PARTS LIST

Item#	Description	Qty	Item#	Description	Qty
1	Body	1	17	Cylinder	1
2	Control Pin	1	18	Vanes	4
3	Rubber Gasket	1	19	Rotor	1
4	Ball	1	20	Bushing	1
5	Spring	1	21	Front End Plate	1
6	Hose Joint	1	22	Spacer	1
7	Rubber Gasket	1	23	Bearing	1
8	O-Ring	1	24	Cylinder Housing	1
9	Regulator	1	25	Sanding Adapter	1
10	Trigger	1	26	Holding Tool	1
11	Pin	1	27	Adapter Lock Down	1
12	Pin	1	28	Backing 3" Plate	1
13	Housing Lock Ring	1	29	Backing 4-1/2" Plate	1
14	Bearing	1	30	Backing 5-1/2" Plate	1
15	Spacer	1	31	Keyless Chuck	1
16	Rear End Plate	1	32	Chuck Center Screw	1

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER NOR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THE ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

90 Day Warranty

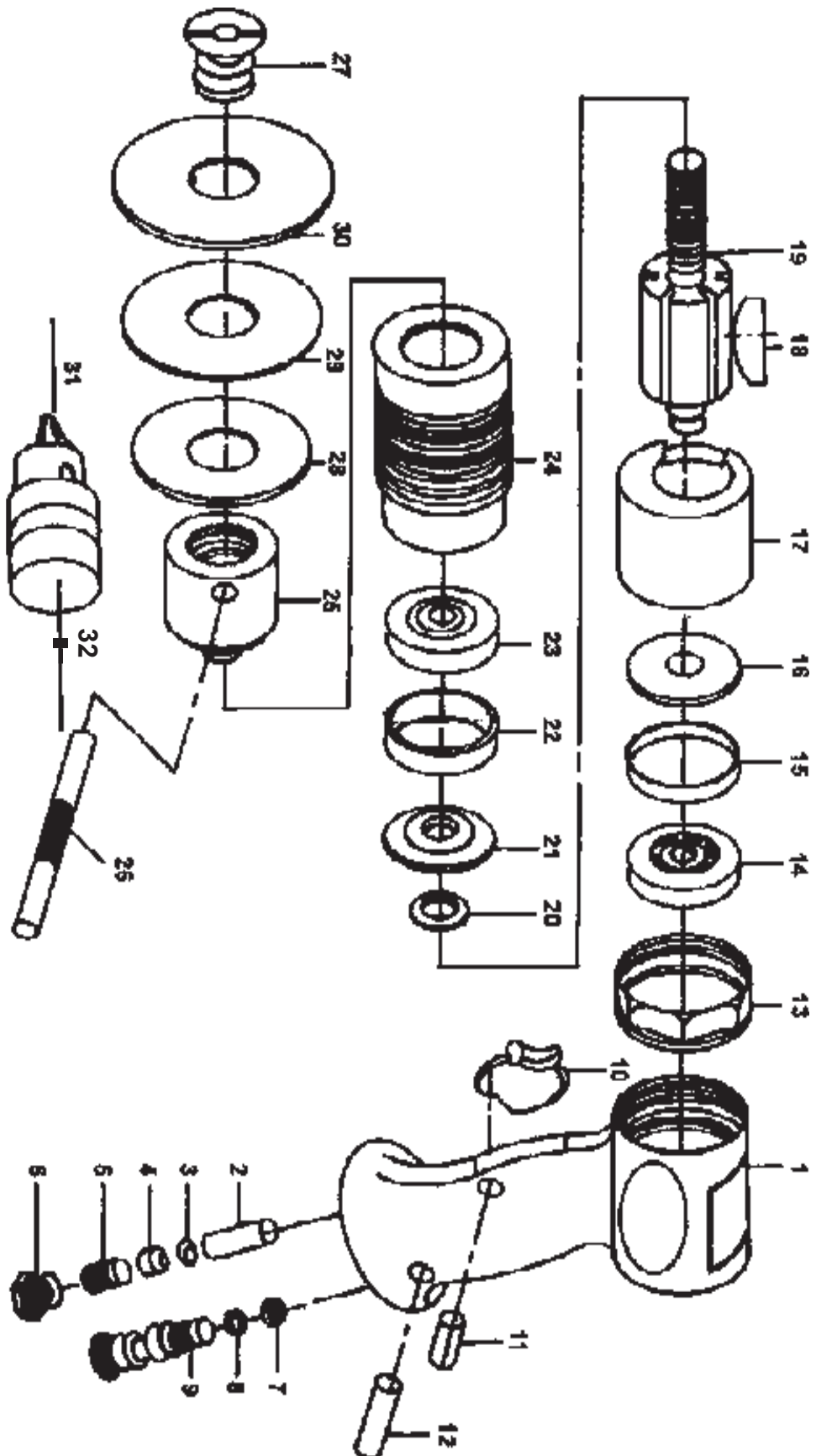
Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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ASSEMBLY DIAGRAM



NOTE: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.